FIG. 1

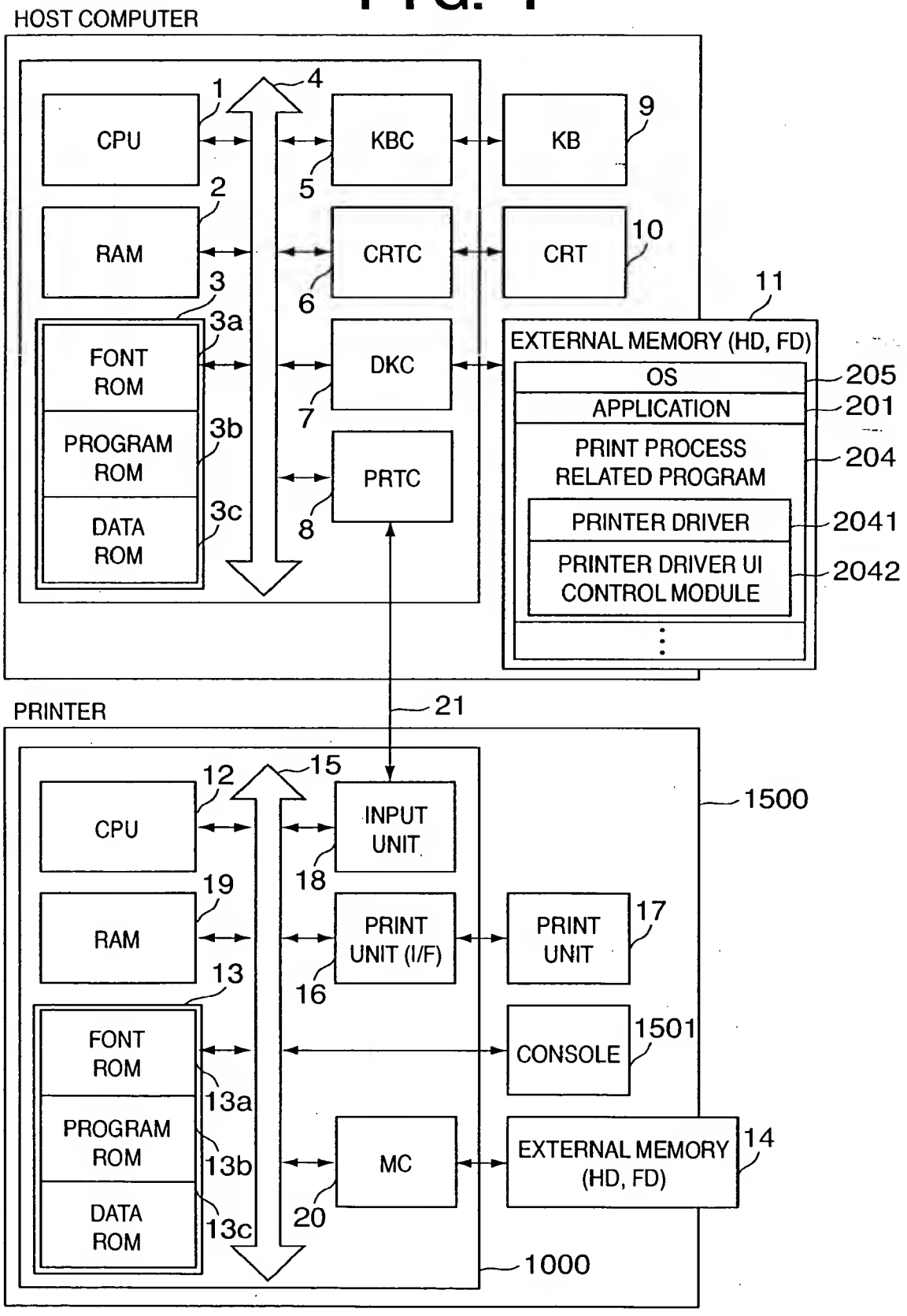
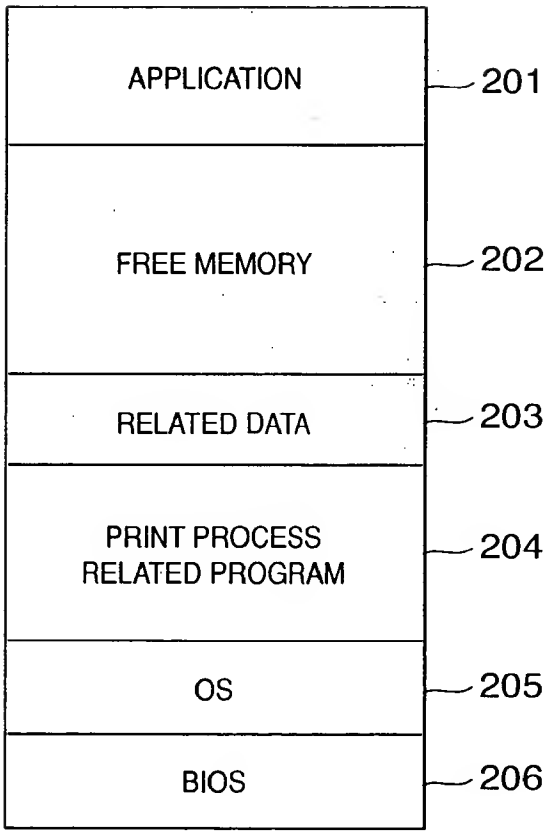
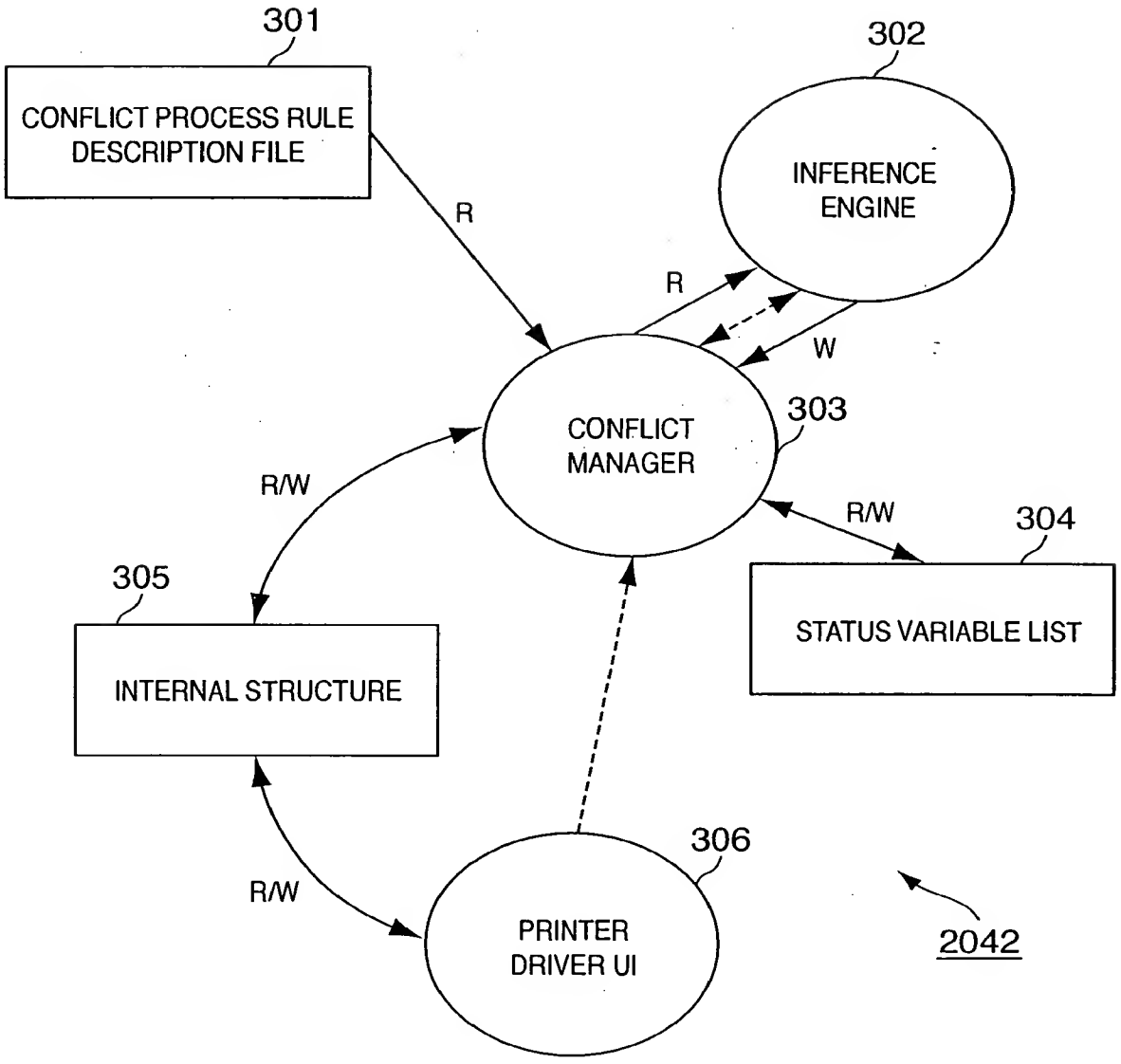

HOST COMPUTER
CPU
RAM
FONT ROM
PROGRAM ROM
DATA ROM
KBC
CRTC
DKC
PRTC
KB
CRT
EXTERNAL MEMORY (HD, FD)
OS
APPLICATION
PRINT PROCESS RELATED PROGRAM
PRINTER DRIVER
PRINTER DRIVER UI CONTROL MODULE
1
2
3
3a
3b
3c
4
5
6
7
8
9
10
11
205
201
204
2041
2042
21
PRINTER
CPU
RAM
FONT ROM
PROGRAM ROM
DATA ROM
INPUT UNIT
PRINT UNIT (I/F)
MC
PRINT UNIT
CONSOLE
EXTERNAL MEMORY (HD, FD)
12
13
13a
13b
13c
15
16
17
18
19
20
1500
1501
14
1000

FIG. 2



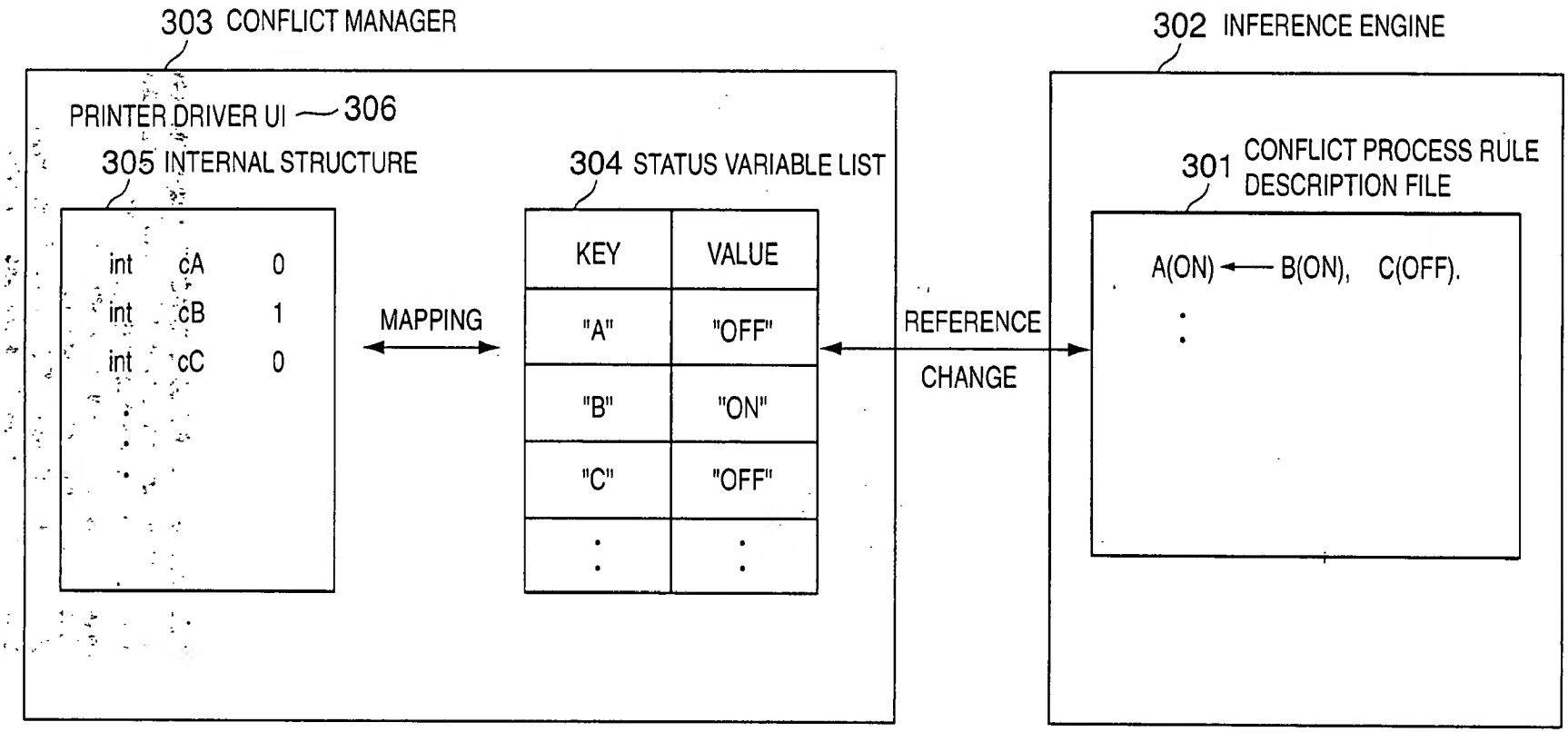
09995724 111201

FIG. 3



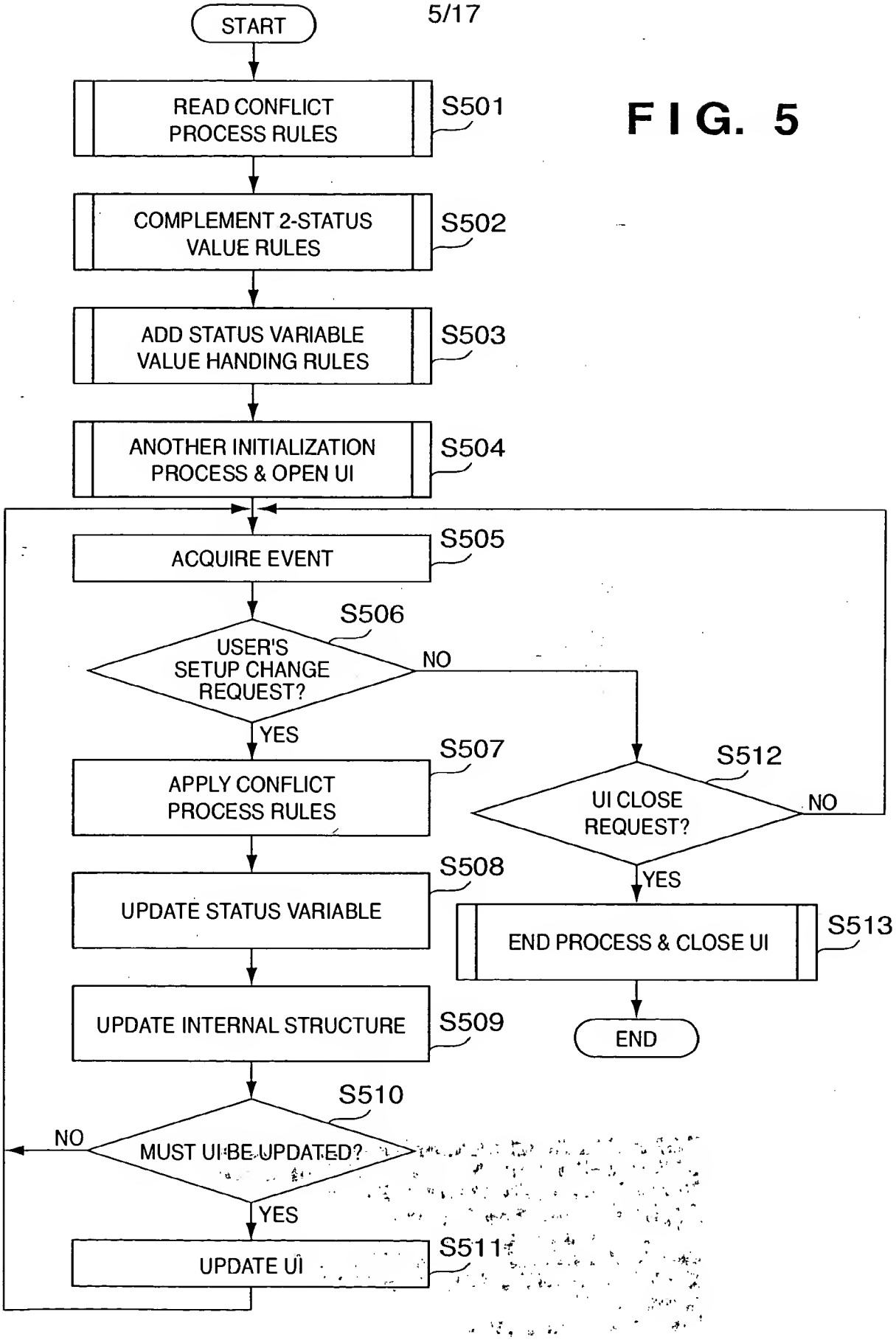
EP0721169A1

FIG. 4


303 CONFLICT MANAGER
PRINTER DRIVER UI 306
305 INTERNAL STRUCTURE
int cA 0
int cB 1
int cC 0
MAPPING
304 STATUS VARIABLE LIST
KEY
VALUE
"A"
"OFF"
"B"
"ON"
"C"
"OFF"
REFERENCE
CHANGE
302 INFERENCE ENGINE
301 CONFLICT PROCESS RULE DESCRIPTION FILE
A(ON) ← B(ON), C(OFF).

09957241-112901

FIG. 5



EP 0 827 114 A2

FIG. 6

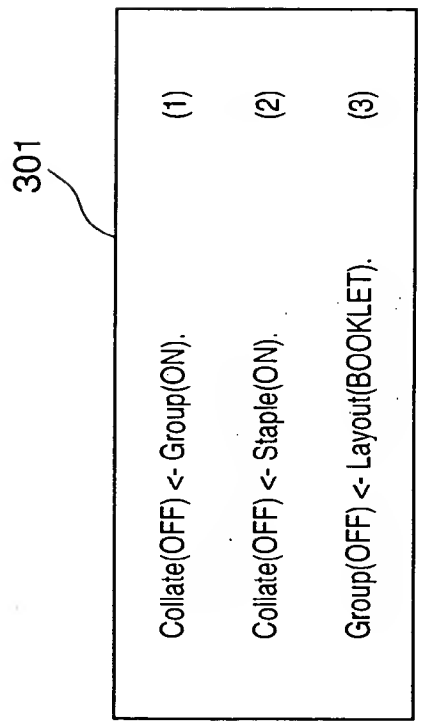


FIG. 7

301

```
Collate(OFF) <- Group(ON).                    (1)

Collate(OFF) <- Staple(ON).                   (2)

Group(OFF) <- Layout(BOOKLET).                (3)


Collate(ON) <- true.                          (4)

Group(ON) <- true.                            (5)


Collate(_X) <- status(Collate,_X).            (6)

Group(_X) <- status(Group,_X).                (7)

Layout(_X) <- status(Layout,_X).              (8)

Staple(_X) <- status(Staple,_X).              (9)
```

EP 0 921 475 A2

FIG. 8

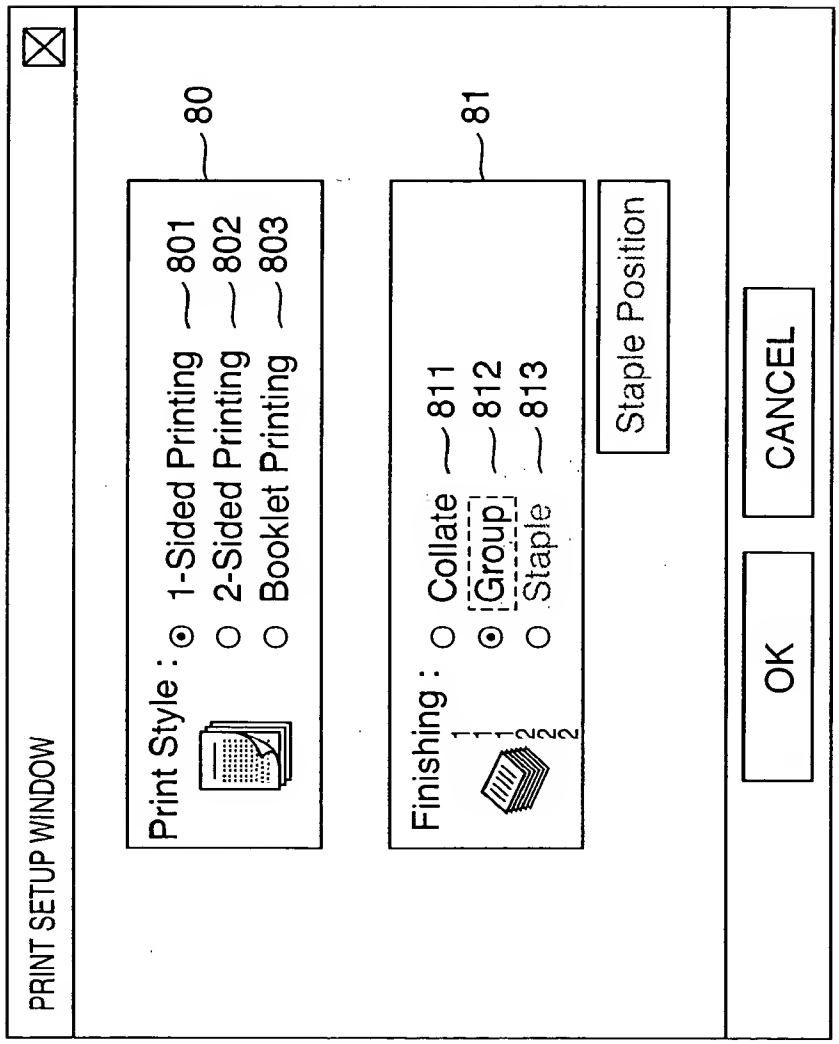

PRINT SETUP WINDOW
Print Style :
1-Sided Printing
2-Sided Printing
Booklet Printing
801
802
803
80
Finishing :
Collate
Group
Staple
811
812
813
81
Staple Position
OK
CANCEL

FIG. 9

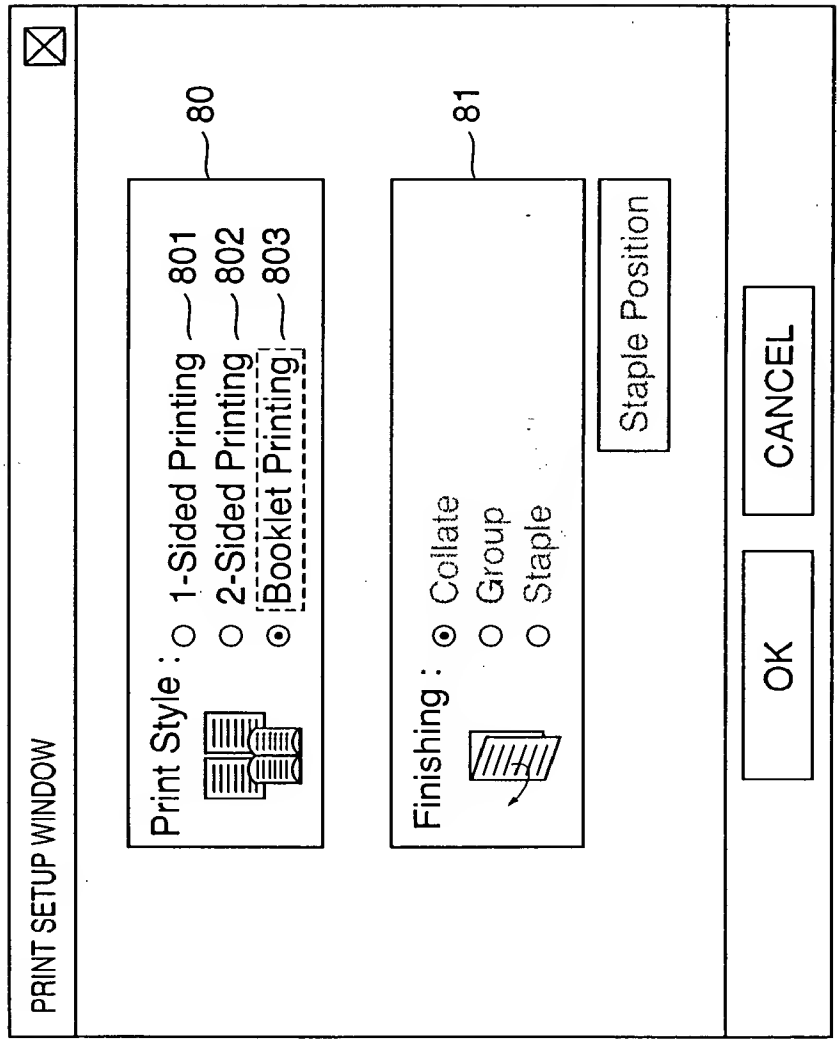

PRINT SETUP WINDOW
Print Style :
1-Sided Printing
2-Sided Printing
Booklet Printing
801
802
803
80
Finishing :
Collate
Group
Staple
81
Staple Position
OK
CANCEL

FIG. 10

D09574-T42901

Collate(OFF) <- Group(ON).	(1)
Collate(OFF) <- Staple(ON).	(2)
Group(OFF) <- Layout(BOOKLET).	(3)
{disable}	
Collate(ON) <- true.	(4)
Group(ON) <- true.	(5)
Collate(_X) <- status(Collate,_X).	(6)
Group(_X) <- status(Group,_X).	(7)
Layout(_X) <- status(Layout,_X).	(8)
Staple(_X) <- status(Staple,_X).	(9)

FIG. 11

EP 0 795 794 A2

Collate(OFF) <- Group(ON).	(1)
Collate(OFF) <- Staple(ON).	(2)
Group(OFF) <- Layout(BOOKLET).	(3)
{disable}	
{Message(MSG001)}	
Collate(ON) <- true.	(4)
Group(ON) <- true.	(5)
Collate(_X) <- status(Collate,_X).	(6)
Group(_X) <- status(Group,_X).	(7)
Layout(_X) <- status(Layout,_X).	(8)
Staple(_X) <- status(Staple,_X).	(9)

T0621T-42756660

FIG. 12

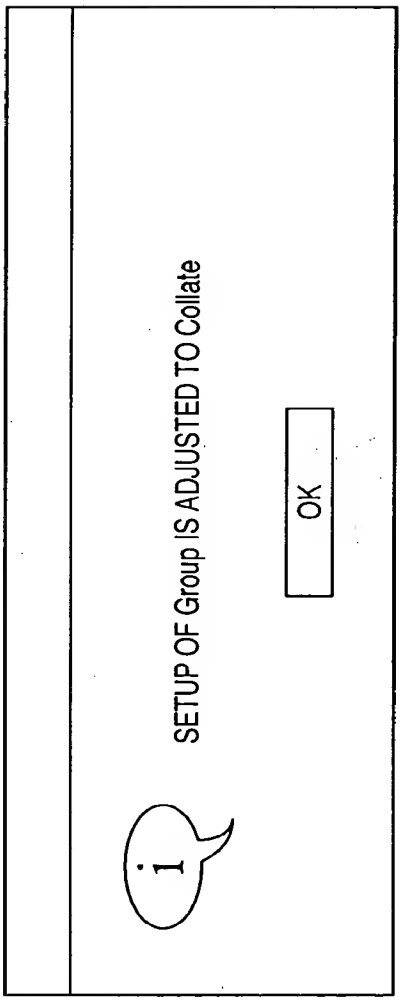
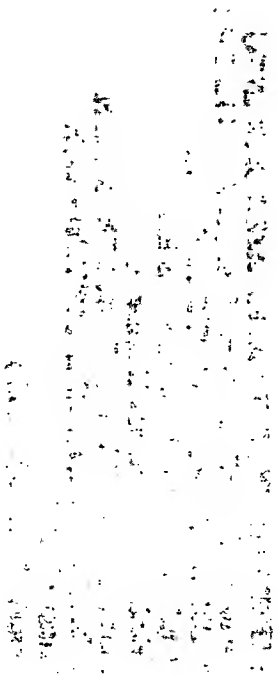


FIG. 13

CONFLICT PROCESS RULE

```
<CONFLICT RULES>
        <CONFLICT RULES, UNIVERSAL>
            <RULE>Booklet(OFF) <- Duplex(ON).</RULE>
            <RULE>Duplex(OFF) <- PaperSize(POSTCARD).</RULE>
            <RULE>Duplex(OFF) <- MediaType(TRANSPARENCY).</RULE>
            ...
        </CONFLICT RULES, UNIVERSAL>
        <CONFLICT RULES, LOCAL>
            <RULE>LayoutId(~POSTER) <- Duplex(ON).</RULE>
            ...
        </CONFLICT RULES, LOCAL>
</CONFLICT RULES>
```

FIG. 14



CONFLICT PROCESS RULE DESCRIPTION FILE

```
<!ENTITY CONFLICT RULES, UNIVERSAL SYSTEM "CONFLICT RULES, UNIVERSAL">
<CONFLICT RULES>
        & CONFLICT RULES, UNIVERSAL
            <!-- READ EXTERNAL UNIVERSAL RULE FILE -->
        <CONFLICT RULES, LOCAL>
            <RULE>LayoutId(~POSTER) <- Duplex(ON).</RULE>
            ...
        </CONFLICT RULES, LOCAL>
</CONFLICT RULES>
```

CONFLICT RULES, UNIVERSAL FILE

```
<CONFLICT RULES, UNIVERSAL>
        <RULE>Booklet(OFF) <- Duplex(ON).</RULE>
        <RULE>Duplex(OFF) <- PaperSize(POSTCARD).</RULE>
        <RULE>Duplex(OFF) <- MediaType(TRANSPARENCY).</RULE>
            ...
</CONFLICT RULES, UNIVERSAL>
```

FIG. 15

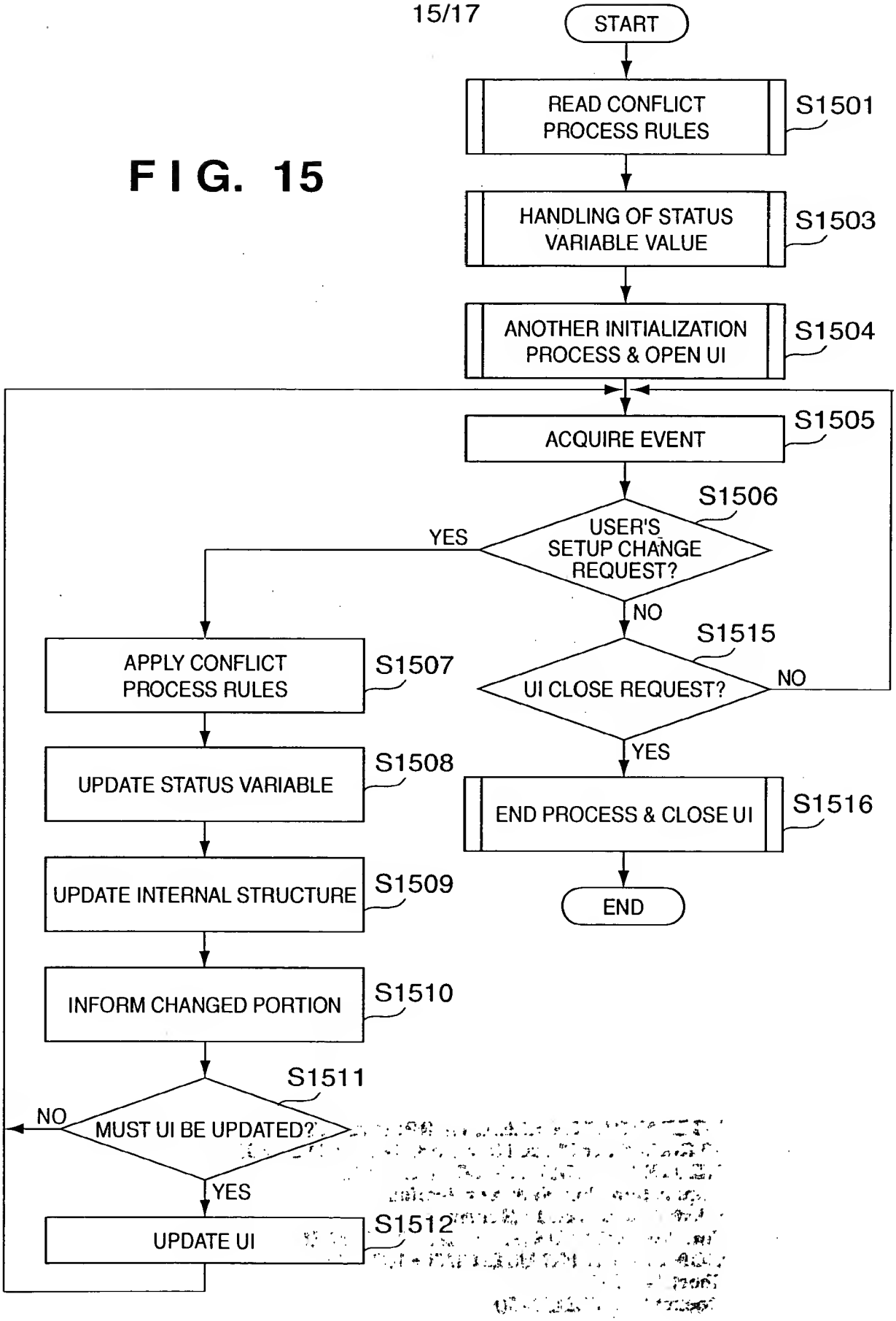

START
READ CONFLICT PROCESS RULES
S1501
HANDLING OF STATUS VARIABLE VALUE
S1503
ANOTHER INITIALIZATION PROCESS & OPEN UI
S1504
ACQUIRE EVENT
S1505
S1506
USER'S SETUP CHANGE REQUEST?
YES
NO
APPLY CONFLICT PROCESS RULES
S1507
UPDATE STATUS VARIABLE
S1508
UPDATE INTERNAL STRUCTURE
S1509
INFORM CHANGED PORTION
S1510
S1511
MUST UI BE UPDATED?
NO
YES
UPDATE UI
S1512
S1515
UI CLOSE REQUEST?
NO
YES
END PROCESS & CLOSE UI
S1516
END

FIG. 16

09655244 111201

Staple(OFF) <- Collate(ON). (1)

Staple(OFF) <- Group(ON). (2)

Staple(OFF) <- Finisher(OFF). (3)

{disable}

Staple(OFF) <- StaplablePaper(OFF). (4)

{disable}

Staple(OFF) <- Layout(BOOKLET). (5)

{disable}

Staple(OFF) <- PaperType(OHP). (6)

{disable}

Collate(ON) <- Layout(BOOKLET). (7)

{disable}

Group(OFF) <- Layout(BOOKLET). (8)

{disable}

T0627T-t2/5660

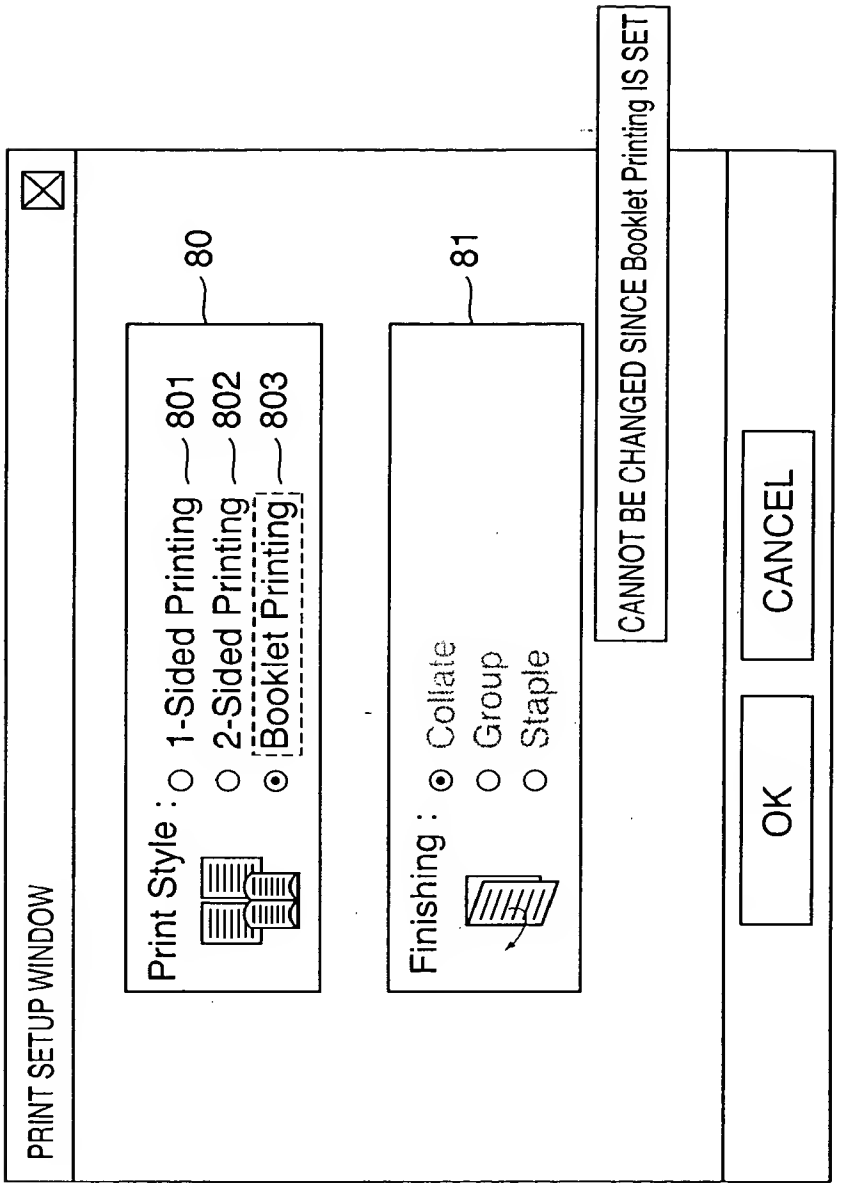



FIG. 17